

<p>95-325584/42 A25 F01 SANN 94.02.09          SANYO CHEM IND LTD *JP 07224138-A          94.02.09 94JP-037902 (95.08.22) C08G 18/61, 18/65          Mfr. of polyurethane resin used in elastic fibres for socks, etc -          comprises reacting high mol. wt. active hydrogen cpd. having two          active hydrogen gps., organic diisocyanate and chain extender,          where active hydrogen cpd. silicon:di:amine cpds.          C95-144565</p>	<p>A(5-G1E, 5-J4, 10-D, 12-C3, 12-F1, 12-S5D) F(1-D7, 1-          D10, 2-G4A, 4-C1, 4-C2, 4-C3)          m = 5-100.  <u>USE</u>          Used in elastic fibres for socks, bathing suits or foundation wear.  <u>ADVANTAGE</u>          Product has good tensile properties, friction with metals, running          smoothness and heat-setting ability. It can be wound without requiring          a large amt. of finishing oils, thus reducing the level of contamination.  <u>EXAMPLE</u>          1600 pts. of polycaprolactone diol (ave. mol. wt. = 2000), 336          pts. of silicon diamine (I, where m = 38) and 180 pts. of 1,4-butane          diol were mixed in a kneader. 750 pts. of 4,4'-diphenyl methane          diisocyanate (MDI) was added and reacted at 150 °C for 1 hr.. The          product was extruded into a pellet. (Intrinsic viscosity = 0.85). It was          spun at 500 m/min into a 40 denier monofilament using a spinning oil          of 5% silicon-modified polydimethylsiloxane. 4% of this oil was          applied to the filament.          JP 07224138-A+</p>
<p>The mfr. of a polyurethane resin comprises reacting:          (i) a high mol. wt. active hydrogen cpd. having two active          hydrogen gps.;          (ii) an organic diisocyanate; and          (iii) a chain extender.          The active hydrogen cpd. contains 1-30 wt. % of silicon diamines of          formula (I);</p>	$\begin{array}{c} \text{Me} \quad \text{Me} \\   \quad   \\ \text{NH}_2 - \text{CH}_2 - \left[ \text{CH}_2 - \text{Si} - \text{O} \right]_m - \text{Si} - \text{CH}_2 - \text{NH}_2 \\   \quad   \quad   \quad   \\ \text{Me} \quad \text{Me} \quad \text{Me} \quad \text{Me} \end{array} \quad (I)$

The fibre had: a tension = 3.2 g; a coefficient = 0.390; a tensile strength = 1.5 g/d, an elongation = 380%; and an elastic recovery = 80%.

In a comparative example, 3000 pts. of silicon diamine X-22 161B (RTM) (av. mol wt. = 3000) (I, where m = 38) and 270 pts. of 1,4-butanediol were mixed in a kneader, 1000 pts. of MDI was added and reacted at 150 °C for 1 hr. The prod. was extruded into a pellet (Intrinsic viscosity = 0.90).

The fibre had: a tension = 3.0 g; a coefficient = 0.320; a tensile strength = 1.1 g/d; an elongation = 330%; and an elastic recovery = 68%. (JS)  
(6pp171DwgNo.0/0)

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